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ABSTRACT

The experiments here reported represent attempts to produce "equal status interaction" in four-man groups of junior high school boys, two of whom are white and two black. The theory is that equality is not a consequence of interracial task performance. Rather, it is likely that generally held beliefs about the differential competence of the two races affect the new situation via initial expectations, resulting in a differential activity and influence rate, a case of self-fulfilling prophecy. The three experiments used three treatments, respectively. The first involved giving the black subjects (Ss) superior training on a task unrelated to the criterion task, a game situation. The second involved having the black Ss teach the white Ss the training task prior to the game. Neither was successful in inducing "equal status interaction." However, a third treatment, in which the black Ss were specifically instructed on the relevance of the training task to the game situation by a black trainer prior to teaching the white Ss, was successful. The implication of these results for educators is the necessity to treat expectations of both black and white Ss to attain racial balance in these integrated groups. The condition in which only black expectations were treated produced results similar to those of previous studies. (Author/JM)

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MODIFICATION OF INTERRACIAL INTERACTION DISABILITY THROUGH EXPECTATION TRAINING

by

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This is an experimental attempt to produce "equal status interaction" in four-man groups of junior high school boys, two of whom are white and two of whom are black. Our own previous work and that of others shows that whites tend to be more active and influential than blacks in interracial problem-solving groups. Finding a way to modify racial imbalance in problem-solving groups is of central importance to the attempt to integrate schools and the attempt to integrate vocational settings. If the status ordering within the problem-solving group frequently reflects the status ordering of the outer society, with blacks being less active and influential than whites, educational, economic and political institutions are in serious trouble. Although it is often assumed that one has only to bring blacks and whites together on an officially "equal" footing inside the same building for the development of balanced relations between the races, previous studies of racial imbalance would indicate that such assumptions are not sound. It is our contention that "equal status" interaction does not automatically develop when whites and blacks work together. Rather, it is likely that generally held beliefs about the differential competence of the two races will infect the new situation through the medium of expectations. These initial expectations will eventuate in a differential activity and influence rate for the two races--a case of self-fulfilling prophecy. If we are correct, then there is a distinct possibility that school integration will result in the confirmation of stereotypical beliefs about differential competence held by both blacks and whites.

THEORETICAL FRAMEWORK

Previous researchers have shown racial imbalance in the status ordering of biracial problem-solving groups (Katz, 1958; Cohen, E. G., 1968). White group members tend to be more active than black group members; they also tend to be more influential in decision-making. Cohen has named this phenomenon Interracial Interaction Disability. This racial imbalance occurs on tasks where there is no logical reason to expect that whites should be more competent than blacks. In Katz's work, the whites and blacks have been previously matched on the competence relevant to the task, and in Cohen's work, the group task is a non-academic game played on a board, called "Kill the Bull."

Using Status Characteristic Theory developed by Berger, Cohen & Zelditch (1966), the investigators conceptualize the phenomenon as a problem of the expectations blacks and whites hold for each others' performance and for their own performance on certain tasks meeting the theory's scope conditions. Race is seen as an instance of a diffuse status characteristic because there are a set of specific beliefs involving valued and disvalued characteristics associated in peoples' minds with the various states of the characteristic (Negro and White). There are also general expectations associated with the states of the characteristic involving beliefs about how well actors will perform in a wide range of situations. Other examples of diffuse status characteristics are age (older vs. younger), military rank (officer vs. enlisted man), and education (college graduate vs. high school graduate). There is a body of empirical research showing that these diffuse status character-

istics will produce a power and prestige order resembling the ranking in status on new group tasks where competence at the task has no rational relationship to state of the status characteristic. (See discussion of literature in Berger, Cohen & Zelditch, 1966.)

Data on interaction and influence collected on four-man interracial groups of junior high school boys playing "Kill the Bull" uphold the hypothesis derived from the theory (Cohen, 1968). In general, whites are more active and influential than blacks in these groups. The source of the problem is postulated to be low general expectations <u>held by both blacks and whites</u> for black competence on a new task like this game. The racial imbalance is also seen as a product of high general expectations for white performance held by both blacks and whites. It is very important to note that subjects are given no other basis for evaluating relevant competences for this game, a scope condition of the theory. On other status characteristics such as social status and age, they were alike. Other important scope conditions are the emotionally involving nature of the game and its collective structure, demanding that the group come to a series of decisions as a team as to which way to proceed on the game board. Thus the group is forced to evaluate each individual's suggestion and to select one suggestion as the best in order to reach the consensus demanded by the rules. The general expectations based on race infect this new situation starting with the activity rate of whites who expect to be and are expected to be more competent. This, in turn, leads to stronger white influence over decision making and the overall result of whites being more active and influential than blacks becomes a self-fulfilling prophecy.

An obvious method of disrupting this process is the experimental alteration of the players' expectations at the start of the game. This might be accomplished by having the group members experience an Expectation Training Task where the blacks are clearly more competent than the whites. Then when the members sit down to play the game, they will have two prior bases for evaluation of competence; knowledge of the other person's racial status and knowledge of the black member's strong competence on the Training Task. From the theory it may be implied that it is very important for the Training Task to have no specific cultural expectations for black competence such as music or athletics.

Katz's earlier experiment with Assertion Training may be seen as an instance of this type of intervention; and it showed some success in making the black college students more assertive (Katz & Cohen, 1962). The first attempt to modify the racial status ordering by this method in the series of studies done at Stanford's School of Education was not successful. In this first attempt at manipulating expectations, bi-racial four-man groups built a radio crystal set together as a Training Task. Unbeknownst to the subjects, the blacks saw a different and better film on how to build the set. Their instructional videotape included the opportunity to practice the steps with real parts, while the film shown to the whites gave no chance to practice and was not as directive. The group then reassembled and built one large model of a radio crystal set together. After this Training Task they were given the instructions on "Kill the Bull" and played the game, just as subjects had done in the early study.

There were no differences between experimental and control groups in this study; and racial imbalance was evident in the experimental groups just as strongly as in the first study. (See E. G. Cohen, M. Lohman., K. Hall, D. Lucero & S. Roper,"Expectation Training I: Altering the Effects of A Racial Status Characteristic," Technical Report 2, School of Education, Stanford University: Stanford, 1970). Analyses of the results led the investigators to conclude that the treatment had not been successful in producing a competence differential between the races that was recognized by the subjects. In groups where the black subjects (as rated by observers) did perform on the crystal set with a higher level of competence than whites, there was a marked tendency for blacks to underrate their own performance and to overrate white performance; this negative self-evaluation operated to prevent the black members from going into the game situation with an awareness of their superior competence on the training task.

HYPOTHESES AND DESIGN

The experiment reported here, attempted to re-test the hypothesis that subjects' knowledge and experience of superior black competence on a Training Task would alter the status structure in the Criterion Task. Superior black competence on a Training Task should produce less white dominance on the Criterion Task of the game than would be predicted for games not preceded by a Training Task. In comparison to that of Expectation Training I, the manipulation of competence in Expectation Training II is far stronger in its impact and much more complex in its organization.

(1) The blacks are given superior competence on two specific tasks that imply each other. (2) The differential in competence is greatly strengthened by giving the black and white subjects different roles to play, roles implying a sharp difference in competence: the black subjects are teachers and the white subjects are their students on the Training Task. (3) Clear evidence of black competence is presented to both black and white subjects by the use of videotapes to record and play back for the subjects the competent behavior of the black subjects on each of the two components of the Training Task. Furthermore, the high-status, self-confident nature of black behavior is pointed out and reinforced for the black subjects by the Host Experimenter in front of both black and white subjects. It was, therefore, very difficult for the black subjects to deny their own competence. (4) The effective technique of role modeling is used to produce self-confident competent behavior. In Lohman's study of the use of role modeling, he has been able to produce more assertive black behavior by a role modeling film of effective blacks playing the game (Lohman , 1970). This study uses a role modeling film in order to achieve competent teaching behavior on the part of the black subjects in the shortest possible time. The film is of a black teacher (the same age and background as the subjects) teaching a white student. It is shown to black subjects during their "Teacher Training" period. (5) Finally, a black college student is used to instruct the black students in the Training Task.

In this study the Training Task involved two specific performance characteristics: building a two transistor radio and teaching someone else how to build one. The black subjects came to the experiment well

in advance of the white subjects. They had been selected to match the white subjects on general social status and attitude toward school by means of a recruitment questionnaire. Matching requirements produced a predominantly working class sample. They were also selected to be approximately the same height as the white subjects; and they were drawn from a sufficiently wide area so that subjects did not know each other prior to the experiment. The Trainer teaches all black subjects to build the radio and to explain the parts and their functions as they assemble it. The boys are taught two at a time by the black teacher without being given the opportunity to see or talk to each other during the training. When they reach a criterion level of competence, their performance of competence on building the radio is videotaped on an individual basis.

Previous studies provided a body of data on black and white game behavior without Expectation Training. These materials can be used as a control comparison for intervention studies.

The three different treatments are designed to test two separate sub-hypotheses. These are: 1. Racial imbalance in interaction and influence is less likely to occur on the game if both black and white expectations are treated, than if only black subjects' expectations are treated. Interracial Interaction Disability is seen as a problem peculiar to both blacks and whites which stems from a general cultural set of beliefs. It is, therefore, critical to treat both black and white subjects in order to see the racial imbalance on the game modified. If black subjects are given a success experience, but whites never have a chance to find out about that success, whites will enter the game with only race

and its associated general expectations as a basis for evaluating performance. Blacks know that the whites have no basis other than race for evaluating their competence; this should weaken their newly displayed self-confidence. The treating of black expectations alone, by the provision of marked success experiences, is analogous to many attempts in the field of compensatory education.

The second sub-hypothesis is as follows: 2. Racial imbalance in interaction and influence is more likely to occur on the game if the relevance of the training task to the game is not specifically stated, than when relevance between the two tasks is stated. This hypothesis was formulated in an attempt to discover rules for the transfer of training from experience on one task to another. Because the long-range goal is to see racial balance modified and remain modified over a series of planned group experiences, it is necessary to find a basis for predicting transfer on a series of tasks for black and white students. Only when the conditions for transfer are understood can a sufficiently powerful training situation be created for a generalizable and lasting carryover into a variety of situations.

In related work at Stanford's Laboratory for Social Research, relevance was a powerful factor in assuring the transfer of expectations from one task performance to another. The study tested its value as a strengthening device for transfer from Training Task to Criterion Task. In this case, a high value of a specific performance characteristic is assigned to those individuals with the low state of the racial status characteristic. The hypothesis predicts that the specifying of relevance will strengthen the probability of transfer by the principle of

perceived similarity (Stanford Laboratory for Social Research, Technical Report 32,"Consistent and Inconsistent Social Characteristics and the Determination of Power and Prestige Orders,"January 1970). In Expectation Training II, in order to avoid subject deception, competence in the building and teaching task is defined to the subject as self-confident verbal behavior. When the subject's own behavior on videotape is pointed out and praised, it is his "self-confidence," his "speaking up" and his "explaining ideas" that are reinforced. Being a good teacher is also defined in these terms. When relevance is spelled out, subjects are told that the same self-confidence verbal behavior they displayed while building and teaching the radio,/will make them a good team member in playing the game. They are told to use this behavior in the game setting.

Comparison of Procedure on Three Treatments

Because subjects were given such elaborate and intensive attention by the Trainer and the Host Experimenter, it was necessary to spend about the same amount of time with the black subjects before the game in all three treatments. It was also necessary to include in all three treatments the elements of the black teacher, the reinforcement techniques of competent behavior by means of videotape, and both phases of the training task--of successfully building and teaching the radio. In order to test the hypothesis involving the treatment of Black Expectations only (Treatment A), the whites did not serve as students of the blacks but arrived just in time to play the game. Black subjects learned to build the radio, were videotaped as they demonstrated the skill and were reinforced in the presence of the other black subject, but not in the presence of the white

subjects. They were taught how to teach, but when they had reached criterion, they were filmed teaching staff members; one taught the Host Experimenter* and the other taught the Trainer. Videotapes of this successful teaching were again reinforced without the presence of whites. Thus the whites went completely untreated in the Black Expectation Treatment.

In the other two treatments, the whites were shown the film of the two competent black children building the radio and the behavior on the film was reinforced by the Host Experimenter in front of all the subjects. They then served as students and were taught by their black "teachers" to assemble the radio. These teaching sessions were also filmed and were reinforced in the presence of all four subjects. Then the game was played.

The second two treatments were designed to test the hypothesis of relevance. The only difference between the Non-Relevance (Treatment B) and Relevance Treatment (Treatment C) was that in the Relevance Treatment, the black Trainer took the black subjects aside just before the game was played, and explained to them that this self-confident verbal behavior they had been exhibiting as teachers would make them a good team member on the game. The Non-Relevance treatment simply omitted this step.

The basic design of this experiment is diagrammed below.

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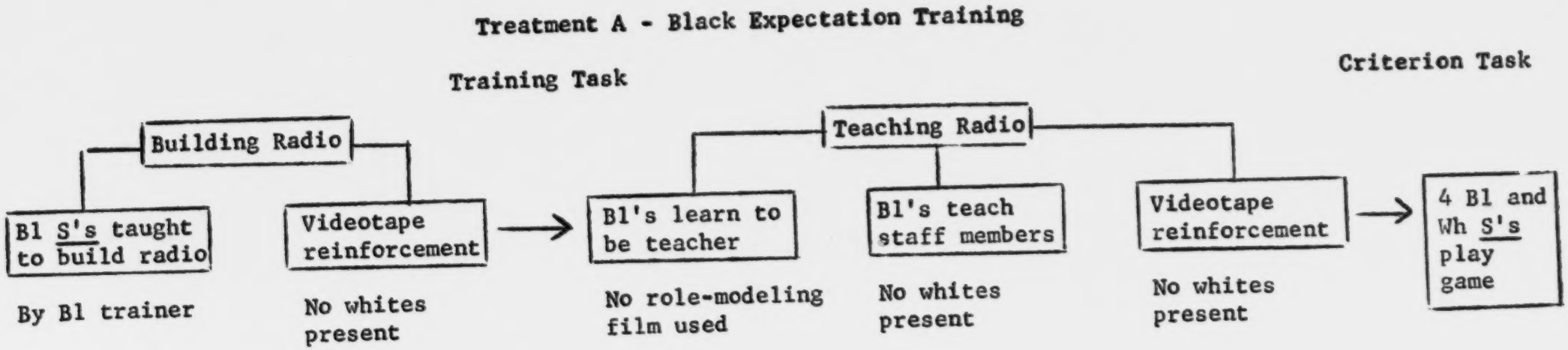
*The Host Experimenter was Filipino.

Figure 1


Treatment A - Black Expectation Training
Training Task
Criterion Task
Building Radio
Teaching Radio
Bl S's taught to build radio
By Bl trainer
Videotape reinforcement
No whites present
Bl's learn to be teacher
No role-modeling film used
Bl's teach staff members
No whites present
Videotape reinforcement
No whites present
4 Bl and Wh S's play game
Treatment B - Black and White Expectation Training - Non-Relevance
Training Task
Criterion Task
Building Radio
Teaching Radio
Bl S's taught to build radio
By Bl trainer
Videotape reinforcement
2 Wh S's present
Bl's learn to be teacher
Role-modeling film with Bl's and Wh's used
Bl's teach Wh's to build radio
Videotape reinforcement
2 whites present
Same as above
Treatment C - Black and White Expectation Training - Relevance
Training Task
Criterion Task
Same as Treatment B
Bl trainer spells out relevance between training task and criterion task - to Bl S's only
Same as above

MEASUREMENT PROCEDURE

Treatment of Data from the Game

Videotapes were made of the four subjects as they played the game. These were played back to a pair of observers (one black and one white) who scored task-related verbal acts made by each player. The scoring system, developed in previous studies, categorizes task acts into four types: performance outputs, action opportunities, positive evaluations and negative evaluations. In addition to this categorization, the scoring system requires designation of the person making the response (Initiator) and the person to whom the response is directed (Recipient). Previous experience with data from this system has shown that the most sensitive and reliable index of the power and prestige order of the game players is the simple index based on number of task acts initiated by the four subjects in a given group.

Inter-Observer Reliability

Inter-observer reliability checks were made on the basis of independent scorings of the same groups by the two observers. Total Initiation scores for the subjects in a given group were compared across observers on the basis of a chi square statistic. At the end of training the observers' data yielded a chi square of .60, df = 3. The probability that this difference occurred by chance is estimated to be above .85. Randomly selected checks over the course of the scoring period all yielded probabilities above .85 that the disagreement between observers was due to chance.

Post-Meeting Questionnaire

After the game was completed, subjects were interviewed individually by staff members using a standardized questionnaire. Among other questions, subjects were asked to rank order the team members, including themselves on contribution of best ideas, guidance and overall leader.

RESULTS--INITIATION

Rank Order Analysis of Acts Initiated

There were 57 four-man groups, 19 in each condition. The simplest way to examine the results of experimental treatment is to rank order the four players within each group on the number of acts they contributed to the game. The player who contributed the most acts related to the task receives the top rank. For the purposes of this analysis, acts scored as Performance Outputs, Action Opportunities and Positive and Negative Evaluations are all combined as Acts Initiated for each person. These four figures are then rank ordered within each group. For each treatment, one can then examine the probability of a black or a white member holding top rank, second rank, etc. Table 1 presents the frequency and probability of whites and blacks holding various ranks in the three conditions.

In the Black Expectation Condition (Treatment A) whites are much more likely than blacks to hold top rank position; there are 13 groups in which a white member holds top rank. Blacks are much more likely to hold bottom rank in this treatment than are whites; in fifteen groups a black member holds bottom rank and in four groups a white holds bottom rank. Overall, this rank order analysis resembles the earliest descriptive study

TABLE 1

FREQUENCY AND PROBABILITY OF BLACKS AND WHITES HOLDING EACH RANK IN TASK-RELATED INTERACTION FOR THREE CONDITIONS

Rank in Group	Blacks: Number of Groups	Whites: Number of Groups
	Treatment A	
1 or 1.5	6	13
2 or 2.5	8	13
3	9	8
4	15	4
	Treatment B	
1 or 1.5	11	9
2 or 2.5	7	11
3	10	9
4	10	9
	Treatment C	
1 or 1.5	11	9
2 or 2.5	8	12
3	6	11
4	13	6

of racial imbalance. It also resembles groups in the Expectation Training I experiment where the treatment was unsuccessful. The fact that this game was preceded by a lengthy success experience for the black subjects evidently did not alter the rank order on initiation rates characterized in previous studies as Interracial Interaction Disability.

In the Black and White Expectation Condition with Non-relevance (Treatment B) the rank order pattern on initiation is greatly changed;

probabilities of holding each of the ranks do not differ by race. If any difference is discernible, the difference favors the blacks. Thus for Treatment B, in which both the whites and the blacks were treated, the differences between the races in the probability of holding a given rank order position in initiation disappeared.

When relevance is introduced as in the third treatment of Black and White Expectations (Treatment C), the probability of holding top rank is again unrelated to the race of the top-ranking member. Race once again, however, becomes a predictor of holding bottom rank: thirteen groups have a black member holding bottom rank as compared to six groups with a white member holding bottom rank. Using this particular measure of initiation, Treatment C does not appear to have altered the racial imbalance as strongly as did Treatment B.

Analysis of Percentage of Acts Contributed by Members

In order to examine the size of the discrepancy between players on initiation rate, the percentage of all task-related acts contributed by each group member to the group total was calculated. Because of previous experience in analysis of this type of data, each racial pair was ranked as the more active and less active member of the two. In these biracial four-man groups, one member of the racial pair is frequently very different in initiation rate from the other. Both blacks are not consistently less active than both whites.

Table 2 presents the means of the percentages of acts initiated for members of groups in each condition. The differences between black and white members ranked by activity appears to narrow when both black and white expectations are treated (Treatments B and C) as compared to

TABLE 2

AVERAGE PERCENTAGE OF ACTS INITIATED IN EACH GROUP BY MORE AND LESS ACTIVE MEMBER OF EACH RACIAL PAIR

Activity Rate	Race	Average % Acts Initiated	N
		Treatment A	
High	White	34.6	19
	Black	27.9	19
Low	White	25.4	19
	Black	13.4	19
		Treatment B	
High	White	33.4	19
	Black	31.4	19
Low	White	18.3	19
	Black	16.5	19
		Treatment C	
High	White	33.2	19
	Black	33.9	19
Low	White	18.7	19
	Black	14.4	19

the difference between racial members in the Black Expectation Treatment. The difference between the more active members of each race in Treatment A is 6.7% while in Treatment B, the difference dwindles to 2%; and in Treatment C there is virtually no difference, the active black is less than 1% higher than the active white. For the comparison between the less active members, there is a dramatic difference for the Black Expectation Treatment (A) where the mean percentage of the whites is 12% higher than the mean percentage of acts initiated by the blacks. In Treatment B

where both black and white expectations are treated, the figure for whites is only 1.8% higher than that for blacks. In Treatment C, the mean percentage of the less active black decreases slightly so that the black-white difference once again favors the whites by 4.31%.

These means of percentages of acts initiated by race for differing activity rates allow so many types of comparisons across races within treatment and between treatments that a graphic presentation becomes very helpful. See Figure 2.

This graphic presentation shows easily how the differences between the more active and less active pairs narrow in Treatments B and C compared to Treatment A. According to this view of the data, Treatment C appears to be associated with the strongest boost in black activity rate although only for the more active black, unlike the rank order analysis previously presented. Similar to the results of the rank order analysis is the lowered rate of activity for the less active black when relevance is introduced in Treatment C in comparison to Treatment B where relevance is not introduced.

Two kinds of statistical comparisons were made on these percentages of acts initiated by blacks and whites in three conditions. One was a randomization test for two independent samples (the non-parametric equivalent of the t-test).[1] The difference in means between treatments was examined, two at a time.

The second statistical test attempted to compare the size of black-white differences <u>within each group</u> between conditions. This comparison was accomplished by a Kruskal-Wallis Rank Test for independent samples.

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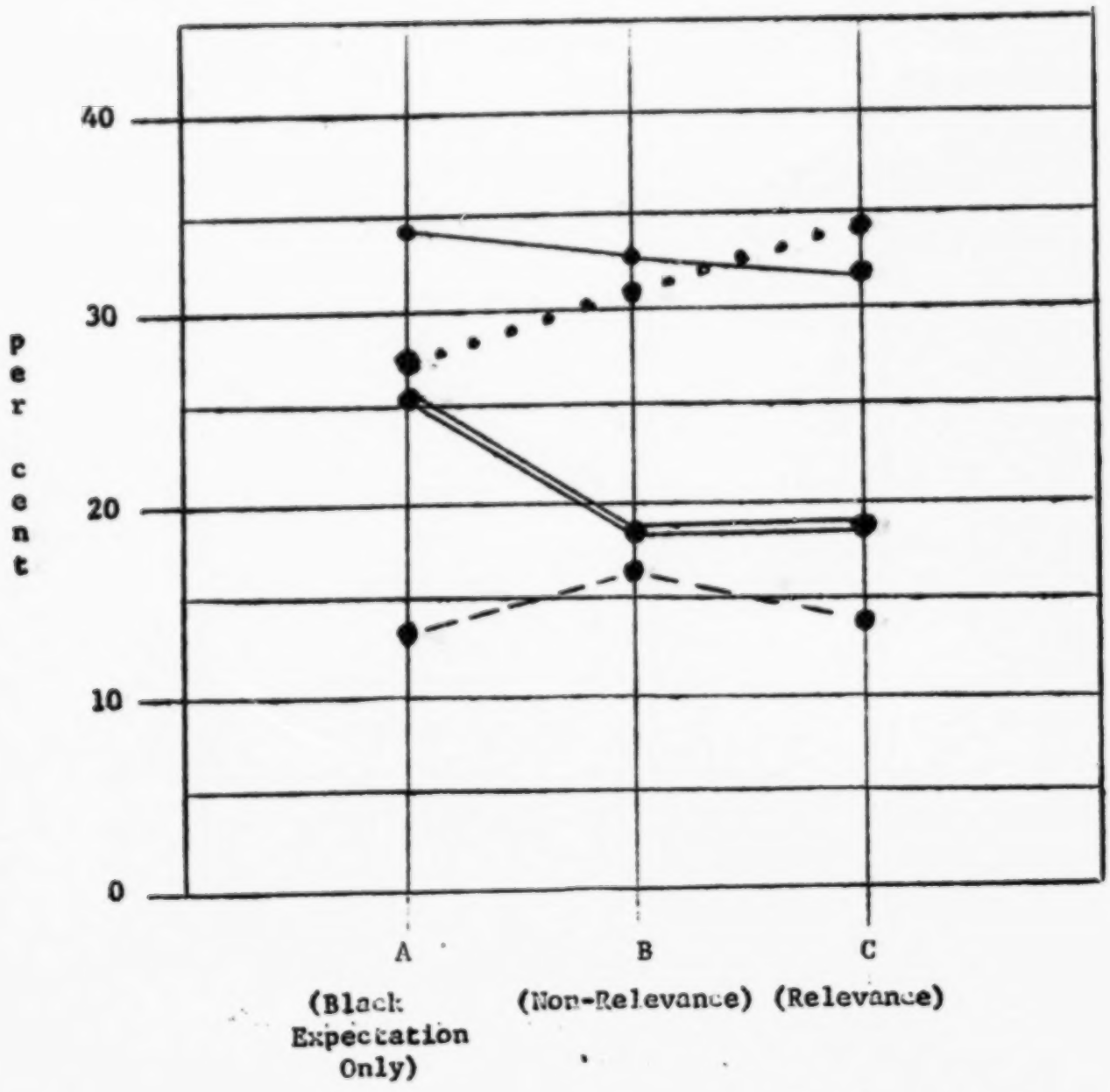
[1]S. Siegel, <u>Non-Parametric Statistics for the Behavioral Sciences</u>, New York: McGraw-Hill, 1956, p. 152.

Figure 2

INITIATION : % $\frac{\text{\# task acts initiated}}{\text{total task acts initiated}}$

By condition



active white

less active white

active black

less active black

More active=team member with highest % of all task acts initiated by race.

Comparison of Mean Percentages Across Conditions

The randomization tests for two independent samples reported in Table 3 are based on the differences between treatments in the percentage of all acts initiated in each group contributed by black subjects. Comparisons are made for the means of all black subjects in each treatment and for the black subjects separated by activity rates.

TABLE 3

RANDOMIZATION TEST FOR TWO INDEPENDENT SAMPLES:
MEAN PERCENTAGES OF GROUP INITIATION
CONTRIBUTED BY MORE AND LESS ACTIVE BLACKS

Treatments Compared	t Score		
	More Active Blacks	Less Active Blacks	All Blacks
A X B	1.358*	n.s.	1.384*
A X C	2.148**	n.s.	1.299*
B X C	n.s.	n.s.	n.s.

Note: Scores based on 19 more active and 19 less active blacks in each treatment.

*$p < .10$

**$p < .025$

These statistical tests illustrate what was pointed out in Figure 2 . . : The size of the contribution of the more active black is boosted progressively higher from Treatments A to B to C until the comparison between Treatments A and C turn out to be statistically significant with $p < .025$. The differences between A and B do not quite reach the .05 level. The size of the contribution of the less active black is not significantly altered between treatments. When the two black members of

each group are combined, the contribution of the blacks in Treatment B is greater than the contribution of blacks in Treatment A, but the difference does not reach the .05 level; and the contribution in Treatment C similarly is bigger than Treatment A, but the difference is not statistically significant.

Comparison of Black-White Percentage Differences

Examination of Figure 1 in conjunction with the statistical tests reported above leads one to believe that the group members most modified by the treatment were the less active white and the more active black. It appears relatively difficult to change the more talkative white's behavior or the less active black's behavior. What seems to have happened in Treatments B and C was a stimulation of the relative contribution of the more active black and a depression of the relative contribution of the less active white so that he behaved more like the less active black in number of acts contributed in a single group. If this trend, apparent in the picture, is not an artifact of having calculated averages of the nineteen groups in each treatment, then the difference between the more active black and the less active white should grow typically larger proceeding from Treatment A to B to C. It is possible to use the Kruskal-Wallis rank test for independent samples on the difference scores for nineteen groups under each condition. This test examines the overall rank order of the difference scores on thirty-eight groups in two conditions. If the scores from the groups in one condition are consistently higher in the rank ordering than the scores from the groups in the other condition, the value of H reaches statistical significance. Even a simple

inspection of these difference scores reveals the very interesting fact that in the nineteen groups of Treatment A, there are seven groups where both blacks are less active than both whites. Such a pattern yields a "minus" value on the difference score. In Treatment B there are four such groups; and in Treatment C there are only three such groups.

Table 4 gives the values of H for the comparisons between treatments. The comparison between Treatments C and A reaches statistical significance with p less than .02. The comparison between Treatments A and B does not quite reach the .05 level of statistical significance.

TABLE 4

KRUSKAL-WALLIS ONE-WAY ANALYSIS OF VARIANCE:
DIFFERENCE IN PERCENTAGE OF ACTS INITIATED
BY MORE ACTIVE BLACK AND LESS ACTIVE WHITE

Source	H	p
A X B	3.33	$p < .10$
A X C	6.13	$p < .02$

In review, analysis of the means of the percentage of all acts initiated by black and white members highlights three features of the data.

a. From the point of view of the size of the contribution of the more active black, Treatment C is greater than any other; the means of Treatments C and A are significantly different.

b. From the point of view of the less active black, there are no significant mean differences between treatments. The mean contribution is somewhat larger under Treatment B than in either of the other two treatments.

c. The increase in percentage of acts contributed by the more active black appears to be at the expense of the activity rate of the less active white. The difference between these two group members is significantly greater under Treatment C than under Treatment A. Treatment B is clearly intermediate on this effect.

The Inactive Black and The Overactive White

The pattern of Interracial Interaction Disability in Treatment A looks much the same as the pattern of earlier studies. As described in the rank order analysis, 13 of the 19 groups have a white as top-ranking initiator; and 15 groups have a black as bottom-ranking initiator. Two hallmarks of racial imbalance in four-man groups have been the occurrence of a very quiet black group member and an extremely talkative white member.

Observations of untreated groups frequently include the comment that the talkative white member is very task-oriented and seemingly insensitive to the other individuals. Observations of the inactive black member frequently point out that although he remains involved in the game, he appears almost invisible to the other players. Every once in a while he makes abortive comments to which no one responds. The analysis of mean percentages of total group initiation in the previous analysis does not indicate a sharp change in these particular features of the racial imbalance pattern; rather this analysis shows alteration of the relative contribution to initiation of the other two members--the more active black member and the less active white member. These alterations appear in Treatment B and become very strong in Treatment C.

These hallmarks of racial imbalance are evident not only in analyses of percentages contributed to total acts but are evident in examination of the absolute number of acts initiated. There is great variability

in the size of individuals' total scores on acts and in the number of acts scored in each group as a whole. Table 5 presents a simple frequency count of "very quiet" subjects of both races who were scored for less than 11 acts. Also presented are subjects who have 51 or more acts--certainly very talkative performers by any standards.

TABLE 5

FREQUENCY OF VERY QUIET AND VERY TALKATIVE PLAYERS BY RACE

		Treatment		
Type	Race	A	B	C
Quiet	Black	8	6	8
	White	2	7	6
Talkative	Black	1	1	2
	White	6	6	1

Note: Very Quiet = 10 or fewer acts; Very Talkative = more than 50 acts.

The first thing to notice about Table 5 is that the very quiet blacks do not disappear in any of the three treatments, but in Treatments B and C they have been joined by an increasing number of very quiet whites. This is what would be expected from the analysis of percentage of total acts in the last chapter. But the same thing does not happen to the very active blacks whose mean contribution to the group's total appeared to increase in Treatments B and C in the last analyses. Rather, the frequency of highly talkative whites drops to only one instance in Treatment C. There are just as many talkative whites in Treatment A as in B. The frequency of very talkative blacks in Treatment C only goes

up to "two." As a matter of fact, very few blacks have ever been observed making as many scorable remarks as certain hyperactive whites.

Why does the picture appear so different for the case of the overactive white than it does for the underactive black? The major reason is related to the fact that Treatment C groups have a lower group total of task acts altogether. This treatment has only four groups with over 116 acts scored; while the other two treatments have seven groups each with this many acts. There were nine groups in Treatment C with less than 76 acts. When we examine the raw number of acts we can see that Treatment C has the effect of quieting down potentially overactive whites.

RATINGS OF LEADERSHIP

Most small group studies of activity and influence do not have direct measures of the influence process such as the one just discussed. Rather they depend on post-meeting questionnaires where subjects are asked to pick the member of the group who appeared to them to be a "leader." In addition to the measures of the ongoing game, this study included such a question in its post-meeting questionnaire. Table 6 presents the number of blacks and whites chosen as "leader" in the three treatments.

The results of this analysis are parallel to the results on mean percentage of acts initiated. In Treatment A the whites are much more frequently chosen as leader than the blacks. The Treatment B is again intermediate with about the same number of whites and blacks chosen as leader. Treatment C again appears to have the strongest effect on black leadership with a much higher likelihood of the black being chosen as

TABLE 6

SUBJECTS CHOSEN AS LEADER: BY RACE

Source	Black	White	Total
A	28	43	71*
B	33	32	65*
C	45	26	71*

*Missing cases are the raters who would not choose a single person as leader.

leader than the whites; and between the blacks the active black was chosen much more often than the less active black.

Two major questions to be considered in detail in a separate study are: (1) what are the responses of the white subjects to being put in the role of student and to exposure to assertive black behavior, and (2) how do white reactions affect the behavior of black subjects? An elaborate scoring system of socio-emotional behavior has been developed by Susan Roper to explore this question; her results will be reported separately. It is sufficient to report here that she was able to find no evidence of a hostile response on the part of white subjects to their black teachers. Unlike the Katz Assertion Training studies, the whites would be happy to come back for more similar experiences if we were to call them up today.

For the purposes of this report, the scoring system developed by Roper can be used to characterize the emotional tone of the three treatments. Combining all the different types of socio-emotional behavior considered scorable and comparing the total scores given groups in the different treatments, it is clear that the Non-Relevance treatment groups exhibited the highest rates of socio-emotional behavior.

TABLE 7

FREQUENCY AND PROPORTION OF ALL ACTS SCORED AS "SOCIO-EMOTIONAL"

Condition	Total Number S-E Acts	Percentage of All Acts that are S-E
Treatment A	1283	37.2
Treatment B	1565	43.1
Treatment C	1080	37.5

Some of these groups in the Non-Relevance Condition showed the liveliest behavior in all the tapes collected in four years on these interracial games. The players indulged in mock fights, made jokes, and offered joint prayers for the hoped-for roll of the die. A striking cohesion of group members was often evident; and they were frequently reluctant to leave after the experiment was over, enjoying the spectacle of themselves on TV. Having watched so many "invisible" black players in previous studies, the lively participation of many black players was very striking. We did not, however, trust these clinical judgments of change because of obvious biases in the investigators as viewers. Rigorous observations were carried out by observers who did not know the hypotheses and were unaware of differences between treatments.

INTERPRETATION

The most general hypothesis underlying both this and the last attempt at Expectation Training was that assigning a high degree of competence to low status subjects on a Training Task would modify the effects

of that status characteristic on a Criterion Task, i.e., that having high competence on the training task would raise expectations for competence on the game (the Criterion Task). This general hypothesis was supported in the conditions where both black expectations for black performance and white expectations for black performance were treated (Treatments B and C), but was not upheld when black expectations for black performance were the only ones treated.

In Treatment A, the racial status ordering called Interracial Interaction Disability appears unchanged from previous studies of the problem. Providing black subjects with success experiences was not sufficient to change the imbalance in the interaction of blacks and whites.

When both black and white expectations are treated in the two other conditions, sharp changes in the data appear. Thus the sub-hypothesis, that racial imbalance in interaction is less likely to occur on the game when both black and white expectations are treated instead of only black expectations, was upheld. Rank order analysis reveals what happens in Treatments B and C most dramatically. Other analyses also show departures in the direction of "equal status" interaction in these two conditions as compared to Treatment A and as compared to previous studies.

Furthermore, there are differences between the Relevance and Non-Relevance Treatments. As hypothesized, spelling out the relevance between the Training and Criterion Tasks, further decreases the probability of racial imbalance as compared to omitting the "Relevance" step. From the point of view of statistical significance, the Relevance Treatment does not always represent a significantly different picture from the Black

Expectation Only Treatment, whereas the Relevance Treatment does. The Non-Relevance Treatment does, however, consistently show an improved black status according to many of the indices examined, such as perceived black leadership, rank order of blacks in initiation rate, mean percentage of acts initiated by the less active black, increasing incidence of very quiet whites, and increasing difference between the more active black and the less active white. This treatment is clearly intermediate in its ability to modify racial status ordering between the Black Expectation Treatment and the Relevance Treatment.

Confirmation of the hypothesis concerning the superiority of spelling out relevance is drawn from the following evidence: (1) More black subjects are chosen as "overall leader" in the Relevance Treatment than in the Non-Relevance Treatment. (2) Relevance is the only treatment with a virtual disappearance of hyperactive white subjects. (3) The distance between the more active black subject and the less active white subject is significantly greater than Treatment A; whereas the Non-Relevance Condition is not significantly different in this respect from Treatment A.

There are two features of the data requiring special interpretation. One is the superiority of Treatment B from the point of view of rank order analysis of initiation rate. The other is the decrease in the mean percentage of acts initiated by the less active black in Treatment C as compared to Treatment B.

These two features of the data are interrelated. A special check was made of the training videotapes of the less active blacks in Treatment C.

The Trainer was able to recall that these subjects were much slower to learn the radio task than their black partners. It is possible that when relevance was spelled out, an invidious comparison (they could hear each other during Training) became pertinent to the less active black's expectations for his own performance. In future interventions it is probably wise to avoid the possibility of invidious comparisons during training. A decrease in mean percentage of acts initiated by the less active blacks in Treatment C brought them once more to a high probability of holding bottom rank. In the Non-Relevance Treatment where they show the greatest percentage of acts contributed, the fact that there is a dramatic increase in the number of very quiet whites helps to insure that there is an equal probability of blacks and whites holding bottom rank.

IMPLICATIONS

The total failure of previous attempts at Expectation Training gave convincing evidence that white dominance in these small, task-oriented groups is a stubborn phenomenon. The present study went to great lengths to insure not only that black competence would be produced but that the black subjects would believe in their own competence. Steps to achieve these two conditions appear essential to a successful intervention.

There is no basis, at the present time, for knowing which, if any, of the steps in the Training process can be omitted. The videotape was especially useful for the purpose of convincing black subjects of their competence and for role modeling. The selection of a black Trainer

was obviously a very fortunate one; the fact that he was both black and young made him very attractive to the black subjects. He was also a fine teacher, using a directive approach and dedicating himself to the goal of training every subject to perfection. The Host Experimenter was selected because his color and accent made it impossible to identify him as either "white" or "black." Finally, the radio task was ideal for male subjects in this age group producing intense interest. The radio looked quite impressive and complicated, but it was possible to train every black subject (114) to assemble the set and to teach someone else how to build the set, even though they were unselected on IQ or ability.

The most impressive and important finding for educators is the necessity to treat expectations of both black and white subjects to attain racial balance in these integrated groups. The condition in which only black expectations were treated produced results similar to previous studies.

This condition is analogous to a compensatory educational program in many ways. Black subjects were given the same attention, praise and experience in Treatment A as in Treatments B and C. The key difference in the unsuccessful treatment was that white subjects did not know that blacks had acquired competence as builders and teachers of a transistor radio. Thus they had only their more stereotypical beliefs about race and competence to work with in evaluating black partners on the game. The black subjects also knew that their white game partners were unaware of their newly acquired competence.

The argument is frequently made that if black children are given "quality education" in all black schools, they will be better prepared

to compete in the outside society than if blacks attend desegregated schools. The inference from this experiment is that unless both black and white expectations for competence in the interracial setting are treated, the society is not very likely to benefit from the skills and strengths that blacks have to bring to interracial problem-solving. The results of this experiment should not be taken as simple endorsement of the school integration argument for any number of reasons besides the obvious problem of the scale of these small groups and the size of the school populations involved. Integrated schools generally make no effort to treat black and white expectations prior to integration. Secondly, conventional school curriculum makes very little use of interdependent problem-solving groups. Also, there may be alternative routes to improving black self-concept through a social context where blacks are in power. This study can have no data on that subject.

The most exciting possibility for practical development of these ideas lies in the possibility of centers independent of the schools where black and white students who will enter integrated situations may be put through a series of problem solving sessions, entailing the major theoretical features of the Relevance Treatment. The finding that the Relevance Treatment was, by and large, the strongest in altering expectations is very important for educators who are concerned with making changes in expectations that will persist over a variety of tasks including some with a heavier academic component. A feasible, honest technique for enhancing the probability for the persistence of the effects of training is the teaching of "high status" behavior. Without any deception, students may be told that self-confidence, speaking up, and explaining ideas are

qualities making them important members not only in teaching and in a game of decision-making, but in a wide variety of group situations. If educators could select tasks requiring group efforts, relevance between training and a wide variety of academic activities might honestly be established. For it is certainly true that articulation, self-confidence and the ability to explain oneself are applicable to the content of most classroom activities.